

IN THE CLAIMS:

Claims 1-20 (canceled)

Claim 21 (original): A method for manufacturing a semiconductor device, in which a first semiconductor chip or substrate and a second semiconductor chip are joined to each other with the surfaces thereof on which an electrode terminal or a wiring are formed respectively as facing each other via metals of the surface of said electrode terminal or said wiring, comprising the steps of:

providing at least one of said metals with a low-melting point metal layer having a lower melting point than that of each of said metals; and

melting said low-melting point metal layer or alloying said metals with said low-melting point metal layer to thereby join said first semiconductor chip or substrate and said second semiconductor chip to each other.

Claim 22 (original): A method for manufacturing a semiconductor device, in which a first semiconductor chip or substrate and a second semiconductor chip are joined to each other with the surfaces thereof on which an electrode terminal or a wiring are formed respectively as facing each other via metals of the surface of said electrode terminal or said wiring, comprising the steps of:

providing at least one of said metals with a low-melting point metal layer having a lower melting point than that of each of said metals; and

liquefying said low-melting point metal layer to thereby diffuse said metals provided on the surface of said electrode terminal or said wiring into the liquefied low-melting point metal, by the liquid-phase diffusion method, thus joining said first semiconductor chip or substrate and said second semiconductor chip to each other.

Claim 23 (currently amended): The method according to ~~claim 20~~ claim 22, wherein said metals are made of Au and said low-melting point metal layer is made of an Au-Sn alloy or Sn, so that said first semiconductor chip or substrate and said second semiconductor chip are superposed one on the other with said electrode terminals or said wirings thereof as facing each other and heated to a temperature at which said Au-Sn alloy or Sn melts, to be self-aligned and joined with each other.

Claim 24 (currently amended): The method according to claim ~~21, 22, or~~ 23, further comprising the steps of:

alloying said metals provided on the surface of said electrode terminal or said wiring of one of said first and second semiconductor chips with said low-melting point metal layer provided on the surface thereof; and

joining to the other of said first and second semiconductor chips or substrate.

Claim 25 (new): The method according to claim 22, further comprising the steps of:

alloying said metals provided on the surface of said electrode terminal or said wiring of one of said first and second semiconductor chips with said low-melting point metal layer provided on the surface thereof; and

joining to the other of said first and second semiconductor chips or substrate.

Claim 26 (new): The method according to claim 21, further comprising the steps of:

alloying said metals provided on the surface of said electrode terminal or said wiring of one of said first and second semiconductor chips with said low-melting point metal layer provided on the surface thereof; and

joining to the other of said first and second semiconductor chips or substrate.